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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,198	10/26/2000	Parviz Tayebati	CORE-61	4834

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EXAMINER

LANDAU, MATTHEW C

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 07/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/697,198

Applicant(s)

TAYEBATI, PARVIZ

Examiner

Matthew Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitations "the instantaneous wavelength" in line 6, "the same" in line 8, "the electrooptical performance" in line 11, and "the laser's gain medium" in line 12.

There is insufficient antecedent basis for these limitations in the claim.

Claim 2 recites the limitations "the injection current" in line 4 of the claim, "the laser's gain medium" in lines 5 and 6 of the claim, and "the electrooptical performance" in lines 5 and 6 of the claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 3 recites the limitations "the intensity" in line 4 of the claim, "the pump laser" in line 4 of the claim, "the laser's gain medium" in lines 5 and 6 of the claim, and "the

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electrooptical performance” in line 6 of the claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 4 recites the limitations "the pump laser" in lines 2 and 5 of the claim, "the injection current" in line 4 of the claim, "the gain medium" in line 5 of the claim, "the electrooptical performance" in line 6 of the claim, and "the tunable laser's gain medium" in lines 6 and 7 of the claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 5 recites the limitations "the instantaneous wavelength" in line 8 of the claim, "the same" in line 11 of the claim, "the electrooptical performance" in line 14 of the claim, and "the laser's gain medium" in line 15 of the claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 6 recites the limitations "instantaneous wavelength" in line 5 of the claim, "the target wavelength" in lines 5 and 6 of the claim, "the same" in line 7 of the claim, "the electrooptical performance" in line 8 of the claim, and "the laser's gain medium" in line 9 of the claim. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Leard et al. (US Pat. 6,120,190, hereinafter Leard).

In regards to claim 1, Figure 1 of Leard discloses a wavelength stabilizing apparatus comprising: a wavelength measuring module (140,142) for detecting the difference between the instantaneous wavelength of the laser 110 and the target wavelength, and for generating an output signal which is representative of the same; and a control unit 144 for receiving said output signal from said wavelength measuring module (140,142) and for modifying the electrooptical performance of the laser's gain medium in accordance with said output signal so as to lock the tunable laser to its target frequency (see column 4, lines 20-33).

In regards to claim 2, Figure 1 of Leard discloses a wavelength stabilizing apparatus wherein the tunable laser 110 is an electrically pumped laser, and further wherein said control unit 144 is adapted to adjust the injection current applied to the laser's gain medium so as to modify the electrooptical performance of the laser's gain medium (see column 3, lines 36-45 and column 4, lines 28-33).

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In regards to claim 5, Figure 1 of Leard discloses a laser system comprising; a tunable laser 110 and a wavelength stabilizing apparatus comprising: a wavelength measuring module (140,142) for detecting the difference between the instantaneous wavelength of the laser 110 and the target wavelength, and for generating an output signal which is representative of the same; and a control unit 144 for receiving said output signal from said wavelength measuring module (140,142) and for modifying the electrooptical performance of the laser's gain medium in accordance with said output signal so as to lock the tunable laser to its target frequency (see column 4, lines 20-33).

6. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Fomenkov.

Fomenkov discloses a method for stabilizing the wavelength of a tunable laser to a target frequency, said method comprising: detecting the difference between the instantaneous wavelength of the laser and the target wavelength, and generating an output signal which is representative of the same; and modifying the electrooptical performance of the laser's gain medium in accordance with said output signal so as to lock the tunable laser to its target frequency (see column 6, lines 50-59).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leard in view of Mooradian and in further view of Camparo et al.

In regards to claim 3, the difference between Leard and the claimed invention is the tunable laser being optically pumped, wherein the control unit is adapted to adjust the intensity of the pump laser applied to the laser's gain medium. Figure 11 of Mooradian discloses an optically pumped laser 30. Figure 1 of Camparo et al. discloses a pump laser 12, wherein a controller 36 supplies a control signal to the pump laser 12 to adjust the intensity of the pump laser. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Leard by using an optically pumped tunable laser, wherein the control unit is adapted to adjust the intensity of the pump laser applied to the laser's gain medium. The ordinary artisan would have been motivated to modify Leard in the manner described above for the purpose of electrically isolating the tunable laser from the control circuit.

In regards to claim 4, a further difference between Leard and the claimed invention is an electrically pumped pump laser wherein the control unit is adapted to adjust the injection current applied to the gain medium of the pump laser. Figure 11 of Mooradian discloses an electrically pumped pump laser 38. Figure 1 of Camparo et al. discloses a pump laser 12, wherein a controller 36 supplies a control signal to the pump laser 12 to adjust the injection current applied

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to the gain medium of the pump laser. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Leard by incorporating an electrically pumped pump laser with the control unit adjusting the injection current of the pump laser. The ordinary artisan would have been motivated to modify Leard in the manner described above for the purpose of providing a simple pump laser that is easily controlled.


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (703) 305-4396.

The examiner can normally be reached on 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Matthew C. Landau
Examiner

July 1, 2002